WHAT IS CLAIMED IS:

1. An optical interconnection circuit, comprising:

a substrate;

at least two micro tile elements installed on the substrate and having at least one of a light emitting function and a light receiving function; and

an optical wave-guide having an optical wave-guide member formed on the substrate to connect at least the two micro tile elements to each other.

2. The optical interconnection circuit claimed in claim 1,

the at least the two micro tile elements being formed on the substrate and including a first micro tile element emitting an optical signal and a second micro tile element receiving the optical signal; and

the optical wave-guide being formed on the substrate to cover a light emitting part of the first micro tile element and a light receiving part of the second micro tile element, and having a function to transmit the optical signal emitted from the first micro tile element to the second micro tile element.

3. The optical interconnection circuit claimed in claim 1,

the optical wave-guide member of the optical wave-guide being installed in a linear or planar manner on the substrate.

4. The optical interconnection circuit claimed in claim 2,

the optical wave-guide including a light scattering mechanism scattering light, which being installed in the vicinity of at least one of the first micro tile element and the second micro tile element.

5. The optical interconnection circuit claimed in claim 4,

the light scattering mechanism being composed of a resin into which a light scattering particle is mixed.

6. The optical interconnection circuit claimed in claim 4,

the light scattering mechanism being composed of a resin of which a surface is processed to comprise an irregularity thereon.

7. The optical interconnection circuit claimed in claim 4,

the light scattering mechanism being composed of the optical wave-guide member of which at least one of the line width and the height differ from the other part.

8. The optical interconnection circuit claimed in claim 4,

the light scattering mechanism being composed of at least one of a resin and a glass in which a light scattering particle is dispersed, and is dome-shaped.

9. The optical interconnection circuit claimed in claim 8,

the optical wave-guide member being formed to cover the dome-shaped light scattering mechanism.

10. The optical interconnection circuit claimed in claim 2,

the optical wave-guide including a light reflecting mechanism reflecting light, which is installed in the vicinity of at least one of the first micro tile element and the second micro tile element or on an edge part of the optical wave-guide member.

11. The optical interconnection circuit claimed in claim 10,

the light reflecting mechanism including a metal film formed on a surface of the optical wave-guide member.

12. The optical interconnection circuit claimed in claim 10,

the light reflecting mechanism being composed of the optical wave-guide member of which a surface is coated with a coating material including a metal particle.

13. The optical interconnection circuit claimed in claim 10,

the light reflecting mechanism including a reflection plate having a reflection plane attached to the edge part of the optical wave-guide member; and

the reflection plate being disposed to be inclined to the substrate.

14. The optical interconnection circuit claimed in claim 13,

the optical wave-guide member being formed into the shape of a plurality of lines, which are approximately parallel each other, on the substrate; and

the reflection plate being disposed on at least one edge of the plurality of lines, and being one common reflection plate reflecting light transmitting in each of the plural lines.

15. The optical interconnection circuit claimed in claim 1,

the optical wave-guide member being deposited on a metal wiring pattern installed on the substrate.

16. The optical interconnection circuit claimed in claim 1,

the thickness of the micro tile element being twenty μm or less.

17. The optical interconnection circuit claimed in claim 1,

the first micro tile element being one of an LED, a surface emitting laser, and a DFB laser.

18. The optical interconnection circuit claimed in claim 1,

the second micro tile element being a photodiode or a phototransistor.

19. The optical interconnection circuit claimed in claim 2,

a third micro tile element being stacked on the first micro tile element.

20. The optical interconnection circuit claimed in claim 19,

the third micro tile element including a detecting device that detects quantity of light emitted from the first micro tile element, and a controlling device that controls light emitting operation of the first micro tile element based on the detected quantity of emitted light.

21. The optical interconnection circuit claimed in claim 1,

the micro tile element being electrically connected to an electronic circuit installed on the substrate.

22. A method of manufacturing an optical interconnection circuit, comprising:

bonding a plurality of micro tile elements to a substrate; and

installing an optical wave-guide member on the substrate to connect at least two micro tile elements to each other.

23. The method of manufacturing an optical interconnection circuit claimed in claim 22,

the micro tile element including a first micro tile element emitting an optical signal and a second micro tile element receiving the optical signal; and

the optical wave-guide member being installed to transmit the optical signal emitted from the first micro tile element to the second micro tile element.

24. The method of manufacturing an optical interconnection circuit claimed in claim 22,

the optical wave-guide member being installed by coating the substrate and the micro tile element with a light curable resin, thereafter irradiating only an area of a desired pattern with light for patterning.

25. The method of manufacturing an optical interconnection circuit claimed in claim 22,

the optical wave-guide member being installed by coating the substrate and the micro tile element with a desired resin, thereafter using a photolithography method to pattern desired shape.

26. The method of manufacturing an optical interconnection circuit claimed in claim 24,

the coating being performed by using at least one of a spin coating method, a roll coating method, and a spray coating method.

27. The method of manufacturing an optical interconnection circuit claimed in claim 22,

the optical wave-guide member being installed by using a droplet ejecting method.

28. The method of manufacturing an optical interconnection circuit claimed in claim 27,

the optical wave-guide member being installed by installing a lyophobic area and a lyophilic area, which have a desired pattern, on the substrate and a surface of the micro tile element, thereafter ejecting a resin onto the substrate and the micro tile element by the droplet ejecting method.

29. The method of manufacturing an optical interconnection circuit claimed in claim 22,

the optical wave-guide member being installed by a pattern transferring method using a stamper.

30. The method of manufacturing an optical interconnection circuit claimed in claim 22,

the optical wave-guide member being installed by using a printing method.

31. The method of manufacturing an optical interconnection circuit claimed in claim 22,

the optical wave-guide member being installed by using a slit coating method in which a liquid resin is ejected from a slit-shaped gap.

32. An electro-optical device, comprising:

the optical interconnection circuit claimed in claim 1.

33. Electronic equipment, comprising:

the optical interconnection circuit claimed in claim 1.